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PUBLIC UTILITIES BOARD

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December 12, 1973.

The Honourable Roy A. Farran,
Minister of Telephones & Utilities,
403, Legislative Building,
Edmonton, Alberta.

Dear Sir:

Re: Report - Propane Inquiry - December 3, 1973

We respectfully submit our report relative to our inquiry into the production, distribution and pricing of propane in Alberta, to determine whether it would be in the public interest to fix and determine the just and reasonable price or prices for propane used, consumed, stored or retained within Alberta.

The Board will continue to inquire into the matter pursuant to The Public Utilities Board Act and The Gas Utilities Act and report further from time to time.

Yours very truly,

Miles H. Patterson.
Chairman.

MHP/mb.
Enc.

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REPORT
PROPANE INQUIRY
PUBLIC UTILITIES BOARD
DECEMBER 3, 1973

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INTRODUCTION

At the request of The Honourable Roy Farran, Minister of Telephones and Utilities, the Public Utilities Board (hereinafter called "the Board") commenced consideration of the methods and costs of production and distribution of propane and the pricing of propane sold for use and consumption within Alberta.

The Board, of its own motion, considered it appropriate to conduct a public inquiry in order to obtain, to the extent that its authority permitted, information which would enable it to determine, in exercising its powers and authority pursuant to The Gas Utilities Act, whether it would be in the public interest to fix and determine the just and reasonable price or prices for propane used, consumed, stored or retained within Alberta.

The Board also considered it appropriate to examine the question of whether the supply of propane to be consumed as a heating fuel within Alberta should be regulated as a public utility, and whether such regulation could be exercised effectively.

Accordingly, the Board forwarded notices of the inquiry to producers, distributors, wholesalers and retailers of propane, and to firms, associations and individuals whom the Board felt might be sufficiently interested to contribute information to the inquiry. Notice of the inquiry was also published in newspapers throughout the province.

The notice of inquiry and a list of those to whom the notice was sent is included as Appendix 1.

A list of items on which the Board desired to be informed was distributed with the notices of inquiry. The Board subsequently expanded the list of inquiry items and the revised list was distributed to those who appeared on the first day of the Board's hearing.

The inquiry items lists are included as Appendix 2.

The filing of submissions and the recording of appearances took place on the first day of the Board's hearing at the Court House in Calgary on September 27, 1973.

A list of those who appeared is included as Appendix 3.

The Board adjourned the hearing to facilitate preparation of further submissions in response to the expanded inquiry items list. Further hearings were held at the Court House in Calgary on October 25 and 26, 1973.

Two major producers of propane, Imperial Oil Limited and Gulf Oil Canada Limited, addressed the Board and produced witnesses. Two major distributors of propane, Canadian Propane Gas & Oil Ltd. and Cigas Products Ltd., addressed the Board and produced witnesses.

The Canadian Petroleum Association submitted a short brief, Dome Petroleum Limited and Chevron Standard Limited made short submissions.

Submissions were received from two rural co-operative associations but no persons appeared at the hearings to speak to the submissions. No consumers appeared at the hearings nor did anyone appear on their behalf from any Consumer or Municipal Association.

The Board received a number of letters from consumers. A list of the persons who forwarded letters is included as Appendix 4.

To obtain further information relative to propane consumers, a member of the Board met with officials of three Co-operative Associations who distribute propane. His report is included as Appendix 5.

At the hearing, Dome Petroleum Limited challenged the Board's authority to proceed with the inquiry and submitted a Notice of Motion that the hearing not be proceeded with. Following argument, the Board denied the motion and proceeded with the inquiry.

The information given at the hearing, received by letter and obtained by interview is summarized under the headings used in the revised list of inquiry items and is included as Appendix 6, Parts 1 to 14 in the same order as the list.

A summary of the Board's principal conclusions and the Board's recommendations follow.

THE BOARD'S PRINCIPAL CONCLUSIONS ARE:

1. That the world market price is the major influence on wholesale prices of propane in Alberta.

   Wholesale prices have escalated and are continuing to escalate due to rising world market demands.

2. That the wholesale price of propane in Alberta is the major influence on the retail price.

   Although retail prices are influenced also by varying storage and distribution costs and competitive factors, they have escalated and are continuing to escalate due to rising wholesale prices.

3. That if world market demand andprices continue to increase, Alberta consumers will automatically pay more for propane unless action is taken to protect them.

4. That-

   (a) since the cost of producing and processing propane would be difficult to establish, and

   (b) since propane distributors are not capital intensive, and

   (c) since competion exists at the distribution level,

   full regulation of propane distributors as gas utilities is not necessary at present.

THE BOARD"S RECOMMENDATIONS ARE:

1. That the Public Utilities Board be more fully empowered to monitor both wholesale and retail prices at which propane is sold for use and consumption in Alberta.

   To effectively exercise such monitoring function, the Board should be authorized to:

   (a) obtain information regarding the number and classes of Alberta consumers of propane,

   (b) obtain complete information respecting prices charged by producers, and

   (c) obtain complete information respecting prices and conditions of sale to the ultimate consumer in Alberta.

2. That the regulatory powers of the Public Utilities Board be expanded to ensure, that with respect to propane used, consumed or stored within Alberta, that wholesalers and distributors will be under the jurisdiction of the Board.

3. That, while the Board did not specifically enquire into butane prices, the Board considers it prudent to include butane within the scope of the power to monitor and regulate, which is recommended, be given to it. Butane is closely related to propane and is a possible alternative fuel.

4. That, in order to implement the above recommendations, certain amendments to The Gas Utilities Act are required.

APPENDIX 1 - PART 1

NOTICE OF INQUIRY

PUBLIC UTILITIES BOARD

N O T I C E

IN THE MATTER OF "The Gas Utilities Act": and

IN THE MATTER OF "The Public Utilities Board Act": and

IN THE MATTER OF an Inquiry by the Public Utilities Board (pursuant to a request of the Minister of Telephones and Utilities) into the methods and costs of production and distribution and the pricing of propane within the Province of Alberta, in order that the Board may determine, in exercising its powers and authority pursuant to The Gas Utilities Act, whether it will be in the public interest to fix and determine the just and reasonable price or prices for propane used, consumed, stored or retained within Alberta.

NOTICE IS HEREBY GIVEN that an initial hearing by the Public Utilities Board will be held at the Court House, in the City of Calgary, in the Province of Alberta, commencing on Thursday, the 27th day of September, 1973, at the hour of 10:00 o'clock in the forenoon, at which time and place the Board will hear all persons who desire to make representation respecting the matter and in particular respecting the determination of the sources and material available and the items on which the Board will want to hear further representation.

AND FURTHER TAKE NOTICE that the Board has prepared a preliminary list of the items respecting the matter into which the Board is making an inquiry and such list may be obtained by addressing a request for same to:

The Secretary,
Public Utilities Board,
4th Floor, Petroleum Plaza,
9945 - 108th Street,
Edmonton, Alberta.

Notwithstanding the preliminary list of items, any interested person may at the initial hearing request additional items to be placed on the list.

AND FURTHER TAKE NOTICE that all persons making written representation at the initial hearing shall produce to the Board five copies of the same together with five copies of any material in support thereof.

DATED AT EDMONTON, in the Province of Alberta, this 4th day of September, 1973.

PUBLIC UTILITIES BOARD,

Secretary.

APPENDIX 1 - PART 2

NOTICE OF INQUIRY AND PRELIMINARY INQUIRY ITEMS LIST WERE FORWARDED TO THE FOLLOWING:

The Honourable Dr. Hugh M. Horner, Deputy Premier	Edmonton
The Honourable Wm. D. Dickie, Minister of Mines and Minerals	Edmonton
The Honourable Roy A. Farran, Minister of Telephones and Utilities	Edmonton
The Honourable F. H. Peacock, Minister of Industry and Commerce	Edmonton
The Honourable R. W. Dowling, Minister of Consumer Affairs	Edmonton
The Honourable W. Helen Hunley, Solicitor General	Edmonton
Mr. Gordon E. Taylor, M.L.A.	Drumheller
Mr. Peter Trynchy, M.L.A.	Whitecourt
Energy Resources Conservation Board	Calgary
Co-operative Activities and Credit Union Branch	Edmonton
Rural Gas Branch	Edmonton
Family Farm Development Division	Edmonton
Alberta Consumer Affairs Branch	Edmonton Calgary
Consumers Association of Canada	Edmonton Calgary Mannville
Better Business Bureau of Edmonton	Edmonton
Alberta Association of Municipal Districts and Counties	Edmonton
Alberta Urban Municipal Association	Edmonton
Unifarm	Edmonton

Imperial Oil Limited	Calgary
Chevron Standard Limited	Calgary
Dome Petroleum Ltd.	Calgary
Texaco Canada Limited	Calgary
Gulf Oil Canada Ltd.	Calgary
Shell Canada Limited	Calgary
Goliad Oil & Gas Company	Calgary
Pacific Petroleums Ltd.	Calgary
Petrofina Canada Ltd.	Calgary
Valley Gas Company Ltd.	Turner Valley
Plains-Western Gas & Electric Co. Ltd.	Edmonton
Alberta Gas Trunk Line Co. Ltd.	Calgary
Pan Alberta Gas Ltd.	Clagary
Canadian Propane Gas & Oil Ltd.	Edmonton Calgary Grande Prairie Peace River Fort McMurray Boyle Lethbridge Medicine Hat Brooks
Cigas Products Ltd.	Edmonton Calgary Lethbridge Manning Bow Island
Superior Propane Ltd.	Calgary Lethbridge Medicine Hat Westlock Slave Lake

Town & Country Propane Ltd.	Calgary Lethbridge
Blue Flame Propane Ltd.	Edmonton Calgary
Jet Propane Ltd.	Edmonton Girouxville
Hidrogas Limited Calgary	Calgary
Mutual Propane Ltd.	Edmonton
Apollo Propane Ltd.	Edmonton
B. C. Lumber & Supplies (Alberta) Ltd.	Edmonton
Blakely's Motel	Cold Lake
Canadian Natural Gas Liquids Ltd.	Winterburn
County Propane Ltd.	Didsbury
Feeg's General Supplies Ltd.	Didsbury
Gulf Oil Canada Ltd.	Barrhead
A & E Gulf Service	Brooks
Happy Valley Esso Service	Calgary
Mohawk St. Albert Service	St. Albert
Prairie Schooner Service	Medicine Hat
Slave Lake Distributors	Slave Lake
Suburban Propane	Edmonton
Mid-West Propane Ltd.	Edmonton
Northern Petro Products Ltd.	Calgary
Trailer Clinic	Calgary
E. R. Vadhem Distributors Ltd.	Athabasca
Weno Services Ltd.	Calgary
Wes's Super Service	Medicine Hat
Zahara Propane	Grande Prairie
Batke Propane	Drayton Valley

George's Propane & Service	Drayton Valley
Hodge Propane Ltd.	Westlock
Bow Valley Propane Association Ltd.	Hussar
Airdrie Rural Gas Co-op Ass'n Ltd.	Airdrie
Blindman Valley Propane Co-op Ass'n	Eckville
The Propane Gas Association of Canada	Calgary
Independent Petroleum Association of Canada	Calgary
Canadian Petroleum Association	Calgary
Pipeline Technologists (Canada) Ltd.	Calgary
C.P. Rail	Vancouver
Richardson Transport Ltd.	Calgary
Harry Moore	Innisfail
Lars Brandvold	Waterton Park
W. P. Sheehan	Whitecourt
Farmer's Advocate	Edmonton
Daily Oil Bulletin	Calgary
Oil Week	Calgary
Petroleum Digest Limited	Calgary
Canadian Press	Calgary
Calgary Herald	Calgary

APPENDIX 2 - PART 1

PRELIMINARY LIST OF PROPANE INQUIRY ITEMS

1. Methods and costs of production and processing.
2. Methods and costs of distribution from producer to consumer.
3. Production volumes.
4. Reserves data and the sufficiency of a domestic supply.
5. Methods of storage and storage volumes.
6. Number of consumers and consumption by category.
7. History of pricing.
8. Pricing policy.
9. Wholesale and Retail Prices.

   (Note: The above information should include historical, present and forecast data.)

10. The effect of price and demand of exported propane on the price to propane consumers in Alberta.
11. Other items any interested person may wish to add.

APPENDIX 2 - PART 2

REVISED PRELIMINARY LIST OF PROPANE INQUIRY ITEMS

1. Methods and costs of production and processing.

2. Methods and costs of distribution from plant to consumer.

3. Production volumes.

4. Reserves data and the sufficiency of a domestic supply.

5. Methods of storage and storage volumes.

6. Number of Alberta consumers and Alberta consumption by category.

7. Plant wholesale prices and retail prices to Alberta consumers.

8. Pricing policy or methods of setting prices.

9. The effect of price and demand of exported propane on the price to propane consumers in Alberta.

10. Contracts or other arrangements between Alberta producers of propane and Alberta distributors or consumers of propane.

11. Contracts or other arrangements between Alberta distributors and Alberta consumers of propane.

12. Contracts or other arrangements among Alberta distributors of propane.

13. The role of Alberta distributors of propane and the extent of competition among them.

14. Other items any interested party may wish to add subject to the Board's direction.

Note: Where applicable the information supplied should include historical, present and forecast data.

APPENDIX 3

APPEARANCES: SEPTEMBER 27, 1973.

D. E. LEWIS, Q.C.	Imperial Oil Canada
G. W. BROWN	Petrofina Canada Ltd.
R. R. MAHAFFEY	Chevron Standard Limited
JOHN HOPWOOD	Alberta Gas Trunk Line Ltd.
W. M. WINTERTON	Gulf Oil Canada Limited
W. A. TROUGHTON	Canadian Propane Gas & Oil Ltd.
W. G. LEOWEN	Dome Petroleum Limited
J. S. STEEL	Town & Country Propane
JERRY HENES	Shell Canada Limited
GORDON STANWAY	Pacific Petroleums Ltd.
GEORGE HEFTER	Cigas Products Limited
LARRY STEER	Hidrogas Limited
HANS MACIEJ	Canadian Petroleum Ass'n
M. L. KROPINAK	Bow Valley Propane Association Ltd.
J. SAMBROOK	Blindman Valley Propane Co-op Association

APPENDIX 4

LETTERS WERE RECEIVED FROM:

F. Morris	-	Blackie
A. H. Lee	-	Strathmore
M. Smith	-	Provost
L. Brandvold	-	Waterton Park
H. Moore	-	Innisfail
R. T. Beckingsale	-	Pine Lake
A. M. Pscheidl	-	Calgary
H. Nisbet	-	Bowden
G. H. Gibson	-	Acme
Mrs. M. N. Groundwater	-	Crossfield

APPENDIX 5

PROPANE CO-OPERATIVES

Interviews with the Boards of Directors of three rural propane co-operatives were held at Hussar, Airdrie and Eckville respectively. The co-operatives collectively serve over one thousand consumers with approximately two and one quarter million gallons of propane annually.

At the time of our interviews in October, prices to co-op members ranged from 10¢ per gallon to 13.7¢ per gallon. By December 3, 1973, prices had increased to the 14.5¢ to 17.5¢ range.

The co-op directors stressed the advantages of propane over natural gas in a farming operation. They cited the portability of propane for grain drying and irrigation purposes, and its use as a prime tractor fuel, as important factors.

Rural co-op consumers are concerned about the current and future availability of propane. They have in most instances experienced difficulty in recent negotiations on supply contract renewals. Suppliers will not provide firm prices in future contracts.

It is our opinion that their current concern about supply should be interpreted as concern about supply at the firm and reasonable prices which they have enjoyed in past contracts with suppliers. We believe further that escalating prices have delayed contract negotiations and purchasers have found their usual supplies committed to other markets.

Although total Alberta supply is guaranteed, there is concern about allocation of supply to points from which feasible consumption may occur.

The co-op directors expressed concern regarding propane consumers who will not be served by the rural gasification program but who, by virtue of the program, may be placed in the position where they may not be economically served with propane.

Without exception, the co-op directors feel that the province should provide immediate measures to assure adequate propane supplies at prices comparable to other fuels.

PROPANE CO-OPERATIVES

	BOW VALLEY	AIRDRIE RURAL	BLINDMAN VALLEY
MEMBERSHIP	363	200	475
CONSUMPTION	1,000,000	314,000	900,000
SUPPLIER	Cdn. Propane	Mobil Oil	Chevron
CONSUMER PRICE October 17, 1973	11.5¢	10¢	13.7¢
CONSUMER PRICE December 3, 1973	14.5¢	16¢	17.5¢

BOW VALLEY PROPANE ASS'N LTD. - HUSSAR

Organized in 1959.

Number of Consumer	1963	- 167 members
	1967	- 285 members
	1973	- 363 members
Annual consumption	1963	- 450,000 gal.
	1967	- 734,000 gal.
	1973	- 1,000,000 gal.
Supplier	1959 to 1970 - Propane Engineering Service Ltd.	
	1970 to present - Canadian Propane Gas & Oil Ltd.	
Contract	Currently holding a two-year contract (July 1, 1972 to June 30,1974.)	
Price to Co-op	1969	- 11.0¢/gal.f.o.b. consumer tank
	Oct'73	- 11.0¢/gal.f.o.b. consumer tank
Price to consumer	1969	- 11.5¢/gal.f.o.b. consumer tank
	Oct'73	- 11.5¢/gal.f.o.b. consumer tank
	Dec 3'73	- 14.5¢/gal.f.o.b. consumer tank

Note: 1. The "Price to Co-op" includes delivery to the consumer tank.

2. Consumers in the Fort McLeod and Claresholm areas have volunteered to pay an additional 1¢/gal. in recognition of delivery distance.

3. Distributors will supply existing members only at the 14.5¢/gal. price. New applications for membership are not being accepted. Potential members are paying from 19.5¢ to 22.0¢ per gallon as individual consumers.

AIRDRIE RURAL GAS CO-OP ASS'N LTD. - AIRDRIE

Organized in 1967.

Number of Consumer	1969	- 90 members
	1973	- 200 members
Annual Consumption	1970	- 240,000 gal.
	1973	- 314,000 gal.
Supplier	Mobil Oil Canada Ltd.	
Contract	One year contract signed on Sept. 1/67, has never been renewed, but price has changed without benefit of formal contract since original agreement.	
Price to Co-op	1969	- 6.75¢/gal.f.o.b.plant
	1971	- 5.0 ¢/gal.f.o.b.plant
	Oct '73	- 5.5 ¢/gal.f.o.b.plant
	Dec 3'73	- 9.5 ¢/gal.f.o.b.plant
Price to consumer	1969	- 13.25¢/gal.f.o.b. consumer tank
	1971	- 9.5 ¢/gal.f.o.b. consumer tank
	Oct '73	- 12.0 ¢/gal.f.o.b. consumer tank
	Dec 3'73	- 16.0 ¢/gal.f.o.b. consumer tank

Note: Distribution is by private truck at 6¢/gal. The Co-op owns the distribution tank, the distributor owns the truck.

BLINDMAN VALLEY PROPANE CO-OP ASS'N - ECKVILLE

Organized in 1961.

Number of Consumer	1969	- 350 members
	1973	- 475 members
Annual Consumption	1967	- 600,000 gal.
	1973	- 900,000 gal.
Supplier	1962 to July 31, 1972 - Canadian Propane Gas & Oil Ltd.	
	Aug. 1,1972 to July 31, 1973 - Northern Petro	
	Aug. 1, 1973 - Chevron Standard Limited	
Contract	1962 - 1972 - Annual in form of accepted letter of tender.	
	Currently negotiating with Chevron Standard Limited.	
Price to Co-op	To July 1972	- 6.95¢/gal. f.o.b.pl
	Aug'72 to Apr'73	- 4.95¢/gal. f.o.b.pl
	May'73 to Sept'73	- 6.75¢/gal. f.o.b.pl
	Oct.1973	- 8.0 ¢/gal. f.o.b.pl
	Nov 1973	- 10.5 ¢/gal. f.o.b.pl
	Dec 3,1973	- 12.0 ¢/gal. f.o.b.pl
Price to Consumer	As above plus 5.7¢/gal. f.o.b consumer tank.	

Note: Distribution is by private truck at 4¢/gal.

APPENDIX 6

ITEM 1 - METHODS AND COSTS OF PRODUCTION AND PROCESSING

COMMENTS:

Propane may be recovered from natural gas streams by gas processing plants using one or more of the processes called adsorption, absorption and refrigeration. The propane is recovered as a liquid along with other hydrocarbons such as ethane, butanes, pentanes and heavier hydrocarbons. The liquid mixture must be fractionated to produce separate marketable products.

Gas plants installed in gas fields are designed primarily to produce specification sales gas and the liquid products are produced as by-products. Separate liquid hydrocarbon products such as propane need not be produced. They will only be produced if a market is available for separate products. Otherwise an LPG mix (Liquefied Petroleum Gas mix) or natural gasoline will be produced. Liquid product recovery efficiencies in field gas plants are generally low and are established primarily to control the hydrocarbon dew-point of the specification sales gas so that liquids will not form in gas transmission lines.

Gas plants installed on large gas transmission lines are designed primarily to recover liquid hydrocarbon products since the gas is already in a marketable condition. Again, however, separate liquid hydrocarbon products will only be produced to satisfy a known market. The plant's recovery efficiency for each of the liquid products will be governed by the selling price of the products, because plant capital costs and operating costs increase dramatically with high recovery efficiencies.

Propane may also be recovered in oil refineries by frationation and by cracking. Propane is a relatively minor by-product and refinery recovery efficiency will be determined by an economic study which will compare the revenues generated from selling the product with the costs of production.

At the present time the cost of recovering or producing propane varies considerably from plant to plant because propane is primarily a by-product. As market price increases, propane and other separate liquid hydrocarbons will be produced in response to

demand for them as petrochemical plant feedstock as well as for fuel and not merely as by-products. The average cost of propane will move toward a fairly constant level below the average selling price. This cost-price relationship will be established because the higher selling prices created by the demand on the world market will justify higher recover efficiencies and the inherent higher costs of production while still providing an acceptable profit margin to the producer.

If the selling prices of propane and other separate liquid hydrocarbon products are not left free to reflect world market values, but are fixed at levels which may be unacceptable to producers, it is conceivable that the volume of propane available for market would be considerably reduced. Perhaps none would be produced in Alberta.

In order to determine the cost of propane currently being produced in Alberta, much more detailed cost accounting would be required than is apparently being practiced by gas plant operators. Detailed cost accounting would have to be applied to all gaseous, liquid and solid products being produced. A consistent approach to cost allocations by all producers and processors would be required. Even with detailed cost accounting at each plant on a uniform basis, the cost of producing propane arrived at would differ from plant to plant by reason of such factors as volumes of various products, their concentration in the process stream, the processes used, recovery efficiencies, economies of scale, dates of installation of plants, and other factors involved in construction and operating costs.

CONCLUSIONS:

1. There is no single cost of producing and processing propane.

2. Cost accounting systems required to determine the cost of producing and processing propane would have to encompass all petroleum products, would be very costly to implement and monitor and would yield different costs at each plant.

3. As selling prices on the world market increase making higher recoveries profitable, increased costs of processing and producing propane may be incurred by producers.

ITEM 2 - METHODS AND COSTS OF DISTRIBUTION FROM PLANT TO CONSUMER

COMMENTS:

Some transportation of propane with other hydrocarbons is by pipe line from gas plants to wholesale outlets. Factors influencing the cost of pipe line transportation are load factor, distance, and the relationship of propane volumes to volumes of other hydrocarbons carried by the lines.

Transportation of propane only, from gas plants and refineries to wholesale outlets and to distributors' bulk stations in Alberta, is primarily by tank truck, although some deliveries are made by tank car. Tank truck transportation cost is influenced by the size of the tank, the distance between gas plant and bulk station, the utilization factor of the vehicle, highway conditions, policy regarding depreciation and administration charges. Factors influencing the cost of transportation by tank car are freight rates, tank car rentals and mileage allowances.

Propane is delivered to customers from distributors' bulk stations by bulk delivery tank truck. Tank truck transportation cost in this instance is influenced by the factors earlier mentioned as well as the size of the customer's tank, the distance to customers and the distance between customers.

CONCLUSION:

1. Many factors influence the methods and costs of distribution of propane from plant to consumer. These factors are subject to frequent variations which are, for the most part, beyond the control of the distributor.

ITEM 3 - PRODUCTION VOLUMES

COMMENTS:

Propane production in Alberta is forecast by the Enerby Resources Conservation Board (ERCB) in conjunction with the consideration of export permit applications. The most recent forecast by the ERCB dated January, 1972, is contained in ERCB Report 72-A-OG. A copy of that forecast is attached as Table 1.

It is probable that the forecast will be revised in the light of evidence given at the hearings of the ERCB respecting propane export permit applications.

Because propane is produced as a by-product of natural gas processing plants or refineries, the forecast production of propane is based on recovering a percentage of the main process stream as propane. A radical change in the price of propane, or the fixing of the price to the producer, could influence the recovery efficiencies and thus sugnificantly affect forecasting.

CONCLUSIONS:

1. The current ERCB hearings regarding propane export permit applications may result in a revised forecast.

TABLE 1

TOTAL PROPANE AVAILABILITY AS FORECAST BY THE ERCB
(BARRELS PER DAY)

Year	From Established Gas Reserves	40 Yrs. Growth of Gas Reserves	From Refineries	Total
1972	93,060	-	800	93,860
1973	101,710	-	1,200	102,910
1974	101,220	2,100	1,600	104,920
1975	99,360	6,400	1,600	107,360
1976	98,740	10,700	1,600	111,040
1977	96,740	15,000	1,600	113,340
1978	94,630	17,100	1,600	113,330
1979	91,400	17,100	1,600	110,100
1980	88,480	17,100	1,600	107,180
1981	85,930	17,100	1,600	104,630
1982	81,350	17,100	1,600	100,050
1983	74,420	17,100	1,600	93,120
1984	66,280	17,100	1,600	84,980
1985	59,920	17,100	1,600	78,620
1986	54,170	17,100	1,600	72,870
1987	47,490	17,100	1,600	66,190
1988	42,450	17,100	1,600	61,150
1989	38,650	17,100	1,600	57,350
1990	35,170	17,100	1,600	53,870
1991	32,110	17,100	1,600	50,810
1992	29,320	17,100	1,600	48,020
1993	25,490	17,100	1,600	44,150
1994	22,010	17,100	1,600	40,710
1995	18,670	17,100	1,600	37,370
1996	16,700	17,100	1,600	35,400

ITEM 4 - RESERVES DATA AND THE SUFFICIENCY OF DOMESTIC SUPPLY

COMMENTS:

The Gas Resources Preservation Act, R.S.A. 1970, Ch. 157, provides that the ERCB shall not grant a permit for the removal of propane from Alberta unless, in its opinion it is in the public interest to do so, having regard to the present and future needs of persons within Alberta, and the established reserves and the trends in growth and discovery of reserves of propane in the province. In connection with granting of export permits for propane the ERCB makes a determination as to reserves and Alberta requirements and ensures that sufficient propane is retained in Alberta to meet Alberta requirements.

Movement of propane out of Alberta is not entirely by means of pipe line. Short term exports by rail or tank truck are also considered by the ERCB.

It appeared from information given to the Board that by co-operation, producers and distributors attempt to alleviate spot shortages.

The ERCB published its forecast of the Alberta requirement in ERCB Report 72-A-OG dated January, 1972. A copy of that forecast is attached as Table 2. The forecast may be revised as a result of the current ERCB hearings respecting propane export permit applications.

Peak day supply-demand imbalances can be offset by longer term purchase contracts and the provision of more storage by the producer, distributor and consumer. Such measures are not being taken currently.

Because propane is consumed in Alberta primarily as a fuel in rural areas any significant change in the price of propane to the consumer could result in a significant change in the forecast of Alberta requirements.

The reduction in the forecast requirement of the distributors as a result of the rural gasification program would be intensified if propane becomes less competitive with natural gas due to large propane price increases.

CONCLUSIONS:

1. The ERCB determines Alberta propane requirements and ensures adequate supply for Alberta consumers.

2. Any significant rise in the price of propane to consumers will make natural gas more attractive and will reduce Alberta requirements.

TABLE 2

FORECAST OF TOTAL ALBERTA REQUIREMENTS FOR PROPANE 1971-2001
(BARRELS PER DAY)

Year	Applicants 1971	Board Adjusted 1970(1)	Board 1971
1971	13,520	14,300	-
1972	13,520	14,500	13,500
1973	13,935	15,310	15,000
1974	13,750	15,320	15,000
1975	14,075	15,830	15,500
1976	14,295	16,240	15,700
1977	14,430	16,460	16,000
1978	14,650	16,770	16,400
1979	15,095	17,300	16,800
1980	15,525	17,820	17,300
1981	15,965	18,350	17,800
1982	16,385	18,880	17,900
1983	16,850	19,310	17,900
1984	17,315	19,750	18,300
1985	17,780	20,190	18,700
1986	18,260	20,640	19,000
1987	18,745	21,090	19,300
1988	19,235	21,540	19,600
1989	19,735	22,000	19,900
1990	19,940	22,450	20,200
1991	20,170	22,920	20,500
1992	20,395	23,390	20,800
1993	20,625	23,860	21,100
1994	20,865	24,340	21,400
1995	21,115	24,820	21,700
1996	21,360	25,300	22,000
1997	21,625	25,790	22,300
1998	21,900	26,290	22,600
1999	22,175	26,790	22,900
2000	22,450	27,290	23,200
2001	-	27,790	23,500
30-Year Requirement - Mbbl.	195,545(2)	229,543(3)	208,301(3)

(1) The 1970 Board forecast adjusted to reflect the period 1972 to 2001.

(2) 1971 to 2000.

(3) 1972 to 2001

ITEM 5 - METHODS OF STORAGE AND STORAGE VOLUMES

COMMENTS:

Propane is stored in Alberta as a liquid under pressure. Storage may be in pressure containers above ground or in underground storage caverns.

Above ground storage is provided at production plants sufficient to contain one or two days production. Above ground storage is also provided at distributors' bulk stations and on the consumers' premises. The average cost of above ground storage is approximately $30,00 per barrel. It may cost as much as $50,00 per barrel.

Underground storage caverns are created by pumping fresh water into salt formations and washing the salt out. Such caverns have been developed in Alberta at Fort Saskatchewan, Hardisty and Hughenden. The approximate storage capacities for propane at these locations are as follows:

Fort Saskatchewan	150,000 Bbls.
Hardisty	850,000 Bbls.
Hughenden	150,000 Bbls.

The cost of underground storage runs from $1 to $5 per barrel.

Storage is also provided in the tank cars or tank trucks hauling propane from the producers to the bulk distribution plants and consumers. Excessive reliance on such storage to provide operating inventories, could intensify supply shortages particularly in the winter months when demand is highest and transportation facilities are the least reliable.

The problem that arises is whether the cost of storage should be borne by producer, distributor or consumer or in what way it should be shared. A sharing of storage costs between producer and distributor which is not passed on to the consumer will result in a reduction of profit.

Some co-operation appears to exist between producers and distributors in connection with storage of propane to meet peak day requirements, but it is questionable whether or not it is adequate to meet peak day requirements at all times.

CONCLUSIONS:

1. Storage of propane at $1 to $50 per barrel is expensive in relation to the average wholesale price of propane which for example was $1.93 per barrel in June, 1973.

2. The high cost of storage induces producers and distributors to keep inventories of propane at minimum levels aggravating short term supply shortages during periods of peak demand.

3. Producers, distributors and consumers should be encouraged to provide storage sufficient to meet any short term peak demand.

4. Distributors should be encouraged to enter into purchase contracts with delivery schedules that will maintain inventories at each bulk distribution plant at safe operating levels.

ITEM 6 - NUMBER OF ALBERTA CONSUMERS AND ALBERTA CONSUMPTION BY CATEGORY

COMMENTS:

The ERCB forecast of the Alberta propane requirement (ERCB Report 72-A-OG) takes into consideration the following:

1. Distributor requirements,
2. Petrochemical requirements,
3. Solvent Flood requirements,
4. Contingency allowance.

Reference has also been made to the ERCB Statement of Propane Supply and Disposition for the period 1963 to 1972 inclusive.

From that statement the following information regarding the propane used, consumed, stored or retained within Alberta is obtained for 1972.

	1972 Bbl.	1972 Bbl./Day	1972 % of Production
TOTAL PRODUCTION	28,800,050	78,689	100.00
Alberta Storage	171,743	470	0.60
Ex-Alberta Storage	329,422	900	1.14
Inventory Increase (Decrease)	501,165	1,370	1.74
Miscellaneous Dispositions	532,942	1,456	1.85
Alberta Deliveries			
Domestic	1,631,047	4,456	5.66
Commercial	604,091	1,651	2.10
Internal Combustion	543,682	1,485	1.89
Industrial	241,637	660	0.84
Petrochemical	-	-	-
Solvent Flood	1,225,002	3,347	4.25
Other	-	-	-
Total Alberta Deliveries	4,245,459	11,599	14.74
Total removed from Alberta	23,520,484	64,264	81.67
Total deliveries	27,765,943	75,863	96.41
Total disposition	28,800,050	78,680	100.00

Only two distributors submitted briefs to the propane inquiry. From those briefs and from examination at the hearings very little information was obtained regarding the number of consumers and consumption by category in Alberta.

Additional information was obtained through independent investigations and the following summary shows the approximate distribution of Alberta consumption in 1972 by consumer category for the major distributors.

	1972 Propane Consumption Million Imperial Gallons				
	Cigas	Canadian Propane	Mutual Propane	Co-ops	Total
Residential	8.4	31.0	15.0	2.2	56.6
Commercial	2.7	11.0	-	-	13.7
Industrial	1.5	14.0	-	-	15.5
Total	12.6	56.0	15.0	2.2	85.8

It is noted that this summary accounts for approximately 85% of the total consumption of 105.7 million gallons in these categories as reported by the ERCB.

CONCLUSIONS:

1. Based on 1972 information, 1,631,047 barrels of propane were consumed for domestic purposes. The domestic consumer used an approximate 5.7% of the total Alberta production in 1972 of 28,800,050 barrels.

2. Approximately 5.3 million barrels of propane are used, consumed, stored or retained in Alberta. This constitutes approximately 18.3% of the total production.

3. A monitoring agency should obtain more reliable information regarding the number of consumers in Alberta and the actual use being made of propane within Alberta. This information should show the current status and should forecast changes for at least the next five years that may result from:

   (a) The effect of the Rural Gas Program.
   (b) The increase in petrochemical requirements.
   (c) The change in solvent flood requirements in view of the increasing price of oil.
   (d) the effect of the National Energy Board controls on export from Canada.

ITEM 7 - PLANT WHOLESALE PRICES AND RETAIL PRICES TO ALBERTA CONSUMERS

COMMENTS:

The wholesale price of propane fluctuates. It is not based on production costs but on the going market value of propane in areas outside Alberta.

ERCB publishes monthly statistics in which the average wholesale price of propane is recorded. For the years 1972 and 1973 the prices are as follows:

	1972 ¢/gal.	1973 ¢/gal.
January	5.0	4.7
February	4.7	4.9
March	4.6	4.6
April	4.2	4.6
May	4.0	4.9
June	4.0	5.5
July	4.0	5.7
August	4.0	5.7
September	4.2	
October	4.5	
November	4.5	
December	4.7	

In recent months, the upward trend exhibited during the summer months of 1973 has continued. Imperial Oil Limited advised during the hearings in October that their wholesale price in Alberta was 8.5¢ per gallon.

The Board is aware of wholesale prices of 10.5¢ per gallon in November, and 12¢ per gallon on December 3. The Board has also become aware of recent spot sales at prices more than double the December 3rd price.

Little information was received as to actual retail prices to Alberta consumers. From letters and submissions it appears that recent price increases correspond generally to wholesale price increases.

From the evidence given by both Cigas and Canadian Propane the price differs from area to area. Apparently there is competition in all areas of the province between a number of distributors. That competition is price competition as well as competition with respect to service.

CONCLUSIONS:

1. The world market price is the major influence on wholesale prices of propane in Alberta. Wholesale prices have escalated and are continuing to escalate due to rising world market demands.

2. The wholesale price of propane in Alberta is the major influence on the retail price. Although retail prices are influenced also by varying storage and distribution costs and competitive factors, they have escalated and are continuing to escalate due to rising wholesale prices.

3. The Public Utilities Board should be more fully empowered to monitor both wholesale and retail prices at which propane is sold for use and consumption in Alberta.

   To effectively exercise such monitoring function, the Board should be authorized to:

   (a) obtain information regarding the number and classes of Alberta consumers of propane,

   (b) obtain complete information respecting prices charged by producers, and

   (c) obtain complete information respecting prices and conditions of sale to the ultimate consumer in Alberta.

4. In the public interest the Board should continue to inquire into propane prices pursuant to the present provisions of The Public Utilities Board Act and The Gas Utilities Act.

ITEM 8 - PRICING POLICY OR METHODS OF SETTING PRICES

COMMENTS:

Wholesale pricing policy has been touched on in Item 7. Wholesale price is based on the going market value of propane outside the Province of Alberta.

As to retail pricing policy, competition from distributors having relatively minor investments in capital facilities and low overhead is a major factor in determining the retail price in a particular area.

CONCLUSIONS:

1. Wholesale and retail prices are determined by the impact on price of the usual economic factors and world market demand.

2. The regulatory powers of the Public Utilities Board should be expanded to ensure, with respect to propane used, consumed, stored or retained within Alberta, that wholesalers and distributors will be under the jurisdiction of the Board.

3. In the event that wholesale prices and rates, tolls or tariffs at the consumer level cease to be set by the impact of ordinary economic factors the Board should be authorized to take such action as then may appear necessary in the public interest.

ITEM 9 - THE EFFECT OF PRICE AND DEMAND OF EXPORTED PROPANE ON THE PRICE TO PROPANE CONSUMERS IN ALBERTA

COMMENT:

Approximately 85% of Alberta's production of propane is sold outside the province. The world wide energy shortage, which has given rise to an increase in demand, has resulted in an upward pressure on propane prices at the producer level and consequently at all levels in the Province of Alberta.

CONCLUSION:

It may be appropriate to give some consideration to insulation of Alberta's consumers of propane from the impact of the upward pressure on propane prices above described.

ITEM 10 - CONTRACTS OR OTHER ARRANGEMENTS BETWEEN ALBERTA PRODUCERS OF PROPANE AND ALBERTA DISTRIBUTORS OR CONSUMERS OF PROPANE

COMMENT:

The present contracts or arrangements between Alberta producers of propane and Alberta distributors are for periods of not greater than one year and include a thirty day price negotiation clause. Prior to 1973, distributors enjoyed contracts which provided firm prices for the contract period.

CONCLUSION:

It appears that some distributors could have alleviated the supply problems which they experienced this year by initiating earlier contract negotiations.

ITEM 11 - CONTRACTS OR OTHER ARRANGEMENTS BETWEEN ALBERTA DISTRIBUTORS AND ALBERTA CONSUMERS OF PROPANE

COMMENT:

The consumer has the option to purchase propane from several distributors due to the competitive nature of the industry. However, it should be noted that where a consumer chooses not to invest in propane equipment and storage tanks and rents same from a distributor, he is required to purchase propane from that distributor. He may, of course, terminate the rental arrangements if he so desires and hence purchase propane elsewhere.

CONCLUSION:

A propane customer is not "locked in" to a propane distributor in the same way as is the customer of a public utility with respect to the commodity supplied. Similarly the propane distributor is not "locked in" to his customer as is the owner of a public utility with respect to the obligation to provide service.

ITEM 12 - CONTRACTS AND OTHER ARRANGEMENTS AMONG ALBERTA DISTRIBUTORS OF PROPANE

COMMENTS:

Certain distributors supply other distributors through annual supply agreements or arrangements. The arrangements, in addition to dealing with propane product, often cover storage tanks, equipment, credit and other matters.

It appears that there is co-operation between propane distributors to meet temporary shortages that may arise from time to time at the consumer level.

CONCLUSION:

The arrangements among Alberta distributors do not appear to interfere with competition.

ITEM 13 - THE ROLE OF ALBERTA DISTRIBUTORS OF PROPANE AND THE EXTENT OF COMPETITION AMONG THEM

COMMENTS:

Major Alberta distributors provide bulk storage facilities and maintain propane inventories at strategic locations throughout the province. These distributors also supply customer storage tanks, equipment, appliances and customer service.

Smaller distributors may not have large investments in bulk storage facilities and other equipment and may serve relatively small geographic areas.

It is understood that the competition from small local distributors has a major influence on the price that is charged to a consumer by major distributors.

It was indicated during the hearings that the major distributors encounter competition from three to eight other distributors in all service areas.

On the basis of the letters received respecting recent retail price increases and the submissions of propane co-operative associations it appears that recent retail price increases reflect primarily recent wholesale price increases. Based on the Board's information it appears that recent wholesale price increases may not have been passed on in their entirety to retail customers in all cases.

CONCLUSION:

Competition presently exists between Alberta distributors of propane, and the recent retail price increases reflect world market conditions rather than a lack of competition among Alberta distributors.

ITEM 14 - OTHER ITEMS ANY INTERESTED PARTY MAY WISH TO ADD SUBJECT TO THE BOARD'S DIRECTION

The Board heard argument that it was not in the public interest of Alberta that propane prices be fixed or determined.

The main argument was that since approximately 85% of the propane produced in Alberta is sold outside Alberta, propane should be sold at the maximum possible price thus providing the maximum financial benefit to Alberta citizens.

Further information was obtained as a result of submissions and the Board's questions regarding the operations of propane distributors and may be summarized as follows:

(a) The distributor investment per customer is relatively small in comparison with the investment per customer of a public utility.

(b) It was indicated by a major propane distributor that the general level of distributors' profits is less than the profit that would be anticipated if the distributor were regulated as a public utility on a cost of service basis. However, the distributors indicated they would prefer to operate in an unregulated environment.

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